



American Industry

Welcome!

These mini-lectures are an overview of your assigned readings—they should provide better understanding of what you are reading!

Just listen (if audio is provided, it plays automatically), then read the slide, and use the next arrowhead. If you are viewing this in PDF, use the down arrow at the top of the pdf.

Contents:

Railroads, Steel, Oil and Technology.

Two Case Studies: Eastman and Swift.

Department Stores & Catalog Sales

From “Do or Die” to Labor Unrest

Environmental Concerns

Conclusions.

A brief post test.





The national railroads after the Civil War became the nation's first giant industry. As Americans moved west the railroads demanded huge tracts of land; they used coal, iron, wood; and they employed tens of thousands. To encourage rails, the federal government subsidized their construction west. Rails typified industrial growth in the late 1800s—cheap abundant labor; ready natural resources; cheap available capital; and emerging technology all coming together to make growth sustainable. Technology included auto couplers & refrigerated cars, 1867; air brakes, 1869; then dining cars, heated cars, and sleeper cars. They even changed the way we used clocks when the American Railway Association adopted standard time zones.



This early stereograph was designed to appear to be moving when viewed with 3-D glasses—this effect is re-created here. The Early American Railroads. US History.org. Online image. 2004. 1 December 2009.
<<http://www.ushistory.org/us/25b.asp>>





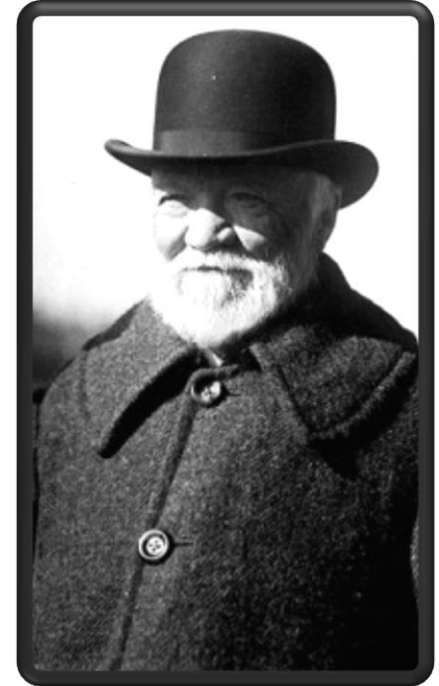
In addition to government help, investors raised money by selling stocks, as shown on the right. Soon rails were overextended, mismanaged, and suffering from bitter competition. Bankers like J. P. Morgan would frequently step in to loan money, promote good management, and arbitrate between competitors—all for a fee and a cut of the action.

By 1900 Morgan owned so many railroads the phrase “Morganized” came to mean the bank take over of suffering rails.





Andrew Carnegie and the steel boom he helped to create became the second big industry and was directly tied to the growth of rails. In 1880 nine steel companies produced 100,000 tons of steel—but by 1890 only two larger companies produced over 1,000,000 tons of steel. In this period employment rose 300%; the dollars invested rose 460%; and production rose over 900%.



Andrew Carnegie later in life. Carnegie Library of Pittsburg. C. 1910.
1 December 2009.
<<http://faculty.virginia.edu/hius341/images/carnegiepics.htm>>





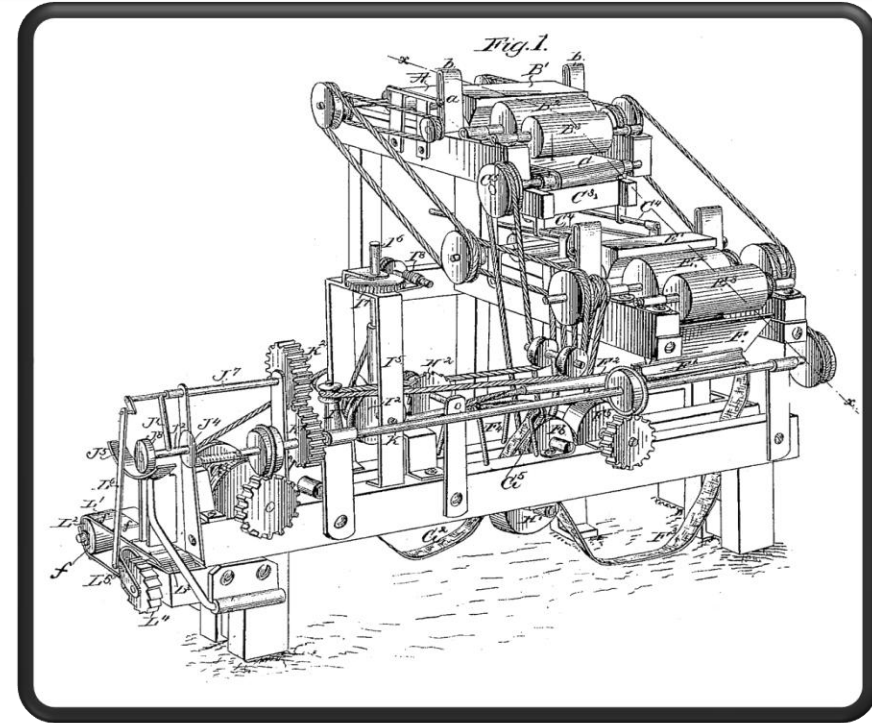
Standard Oil under the direction of John D. Rockefeller was the nation's most inventive business organization.

In Cleveland, he started his oil business at age 24, and from the start he hated competition. As a result he cut every cost possible. He personally supervised many innovations, and was one of the first business leaders to hire university trained chemists to improve production. He pioneered the vertical form of corporation—he owned wells, timber, barrel plants, refineries, pipelines, and tankers--everything up from raw material to delivery. In 1882 he and his attorney's organized the "trust" relationship and monopolized oil. He retired in 1897 worth \$900 million.





Technology & Innovation was king. As Americans moved west they became tremendous consumers—buying goods made on one coast that shipped to the opposite coast—a new phenomena. More U. S. patents were issued in the ten years of the 1890s than all of the previous years of patents combined. The light bulb, telegraph, telephone, the bonsack machine, sulfur matches, vacuum canning. You name it, we made it. While the Chinese made a dish similar to ketchup by the 1690s; and Thomas Jefferson had a recipe—it took Heinz & company to make a consistent product and sell it nationally by 1876.

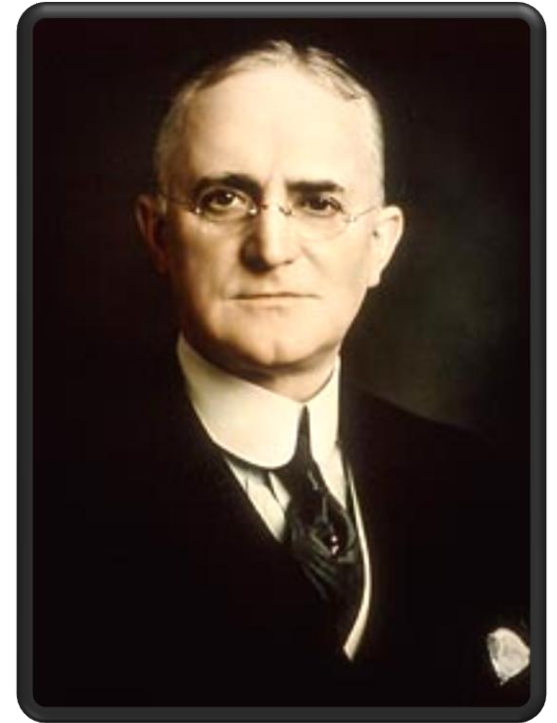


A diagram of the cigarette rolling machine named after inventor James Albert Bonsack. US Patent 238,640. nd. May 2010. <<http://www.learnnc.org/lp/editions/nchist-newsouth/4705>>.



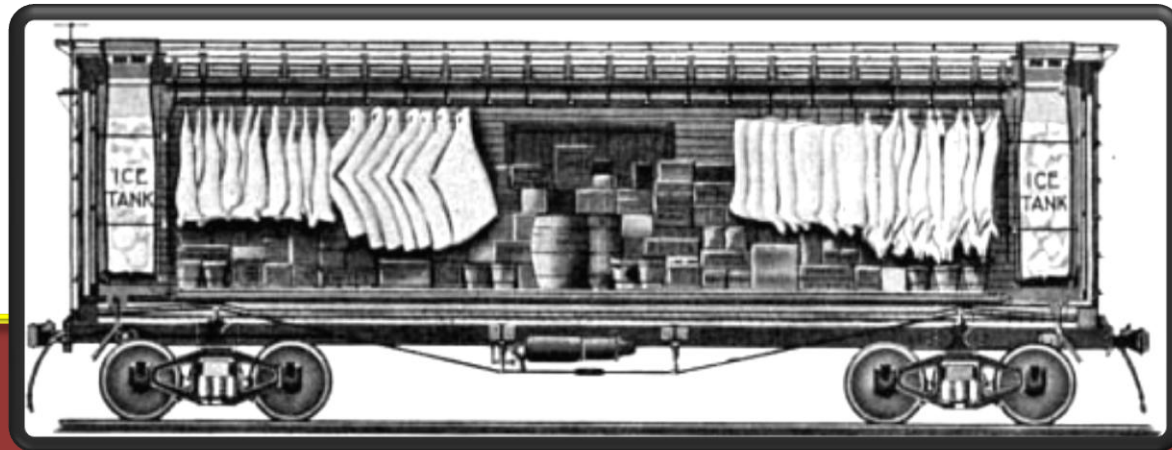


George Eastman was a young man who became interested in photography only to learn that the cumbersome equipment prevented easy use. Along with supporters he invented a dry plate process that made the actual camera mechanism much smaller. Soon he was producing his pocket camera for only \$25. The camera featured a “daylight” loading capability, and users took approximately 100 shots then mailed the camera to Eastman. Eastman developed the photos, re-loaded the camera, and returned the camera and photos to the user. Much like modern giants such as IBM and Microsoft, Eastman was very aggressive in fighting for patent rights. His success typifies the emerging national market, new technologies, business organization, and legal persistence.





Gus Swift captured much of the American meat market & changed diets forever. Swift believed that one could slaughter beef in the west & safely ship the carcass east for sale. Easy to do in winter, Swift wanted to use refrigerated cars all year. Several designers had produced cold cars before Swift hired an engineer to build the first “reefer”, a car with ventilation that circulated cold air from the ice packs inside the car. He invested in his own rail cars; perfected refrigerated cars; organized a national headquarters in Chicago; and, then hired a sale staff with the job of convincing Americans his 3-5 day old beef was safe to eat. Local butchers, and the public were skeptical at first. Railroads were opposed to the cost of refrigeration early on, but Swift proved his point. He also entered the “byproduct” field and produced, glue, soap, and margarine. As President of Swift & Co. from 1885 to 1903 his capitalization increased from \$300,000 to \$25 million.



Gustavus Swift (I). JBS Company. Online image. Nd. December, 1868. 1 December, 2009.
<<http://www.jbsswift.com/>>. View of refrigerated railcar.
(r). History Magazine. Online image. Nd. May 2010.
<http://www.history-magazine.com/refrig.html>





It was only natural that large department stores developed to sell everything from food stuffs to clothes, dry goods, music instruments, furniture, and hardware. One of the most successful was Wannamaker's Department Store. John Wannamaker promised only the highest quality wool and boasted a money back guarantee. He is credited with using the first copyrighted paid advertisement in 1874. He installed electric lights, and later elevators. He also made famous the "sale" scheduling January "white sales" and "mid-summer sales". Like other successful business leaders he combined national markets and transportation, organizational skills, advertising and technology to build his grand emporiums.



John Wannamaker's store were the first to use electric lights; the first of have Christmas shows; and the first to use pneumatic tubes to transport cash to the cashier. His stores even featured giant pipe organs. Wannamaker's Department Store. May 2010. <<http://www.american-architecture.info/USA/USA-Northeast/NT-003.htm>>.





Business men realized rural Americans could not come to department stores; but they could buy from a catalog. With Americans moving west & Rural Fee Delivery available by 1896--timing was perfect . Montgomery Ward became the sole agent for the Illinois Farmer's Grange in 1872—orders poured in; and his catalog grew to include anything farmers needed. Richard Sears started in 1888 by selling guaranteed watches & jewelry. His 1894 catalog used flashy advertising—like the “Book of Bargains”. For a time in the 1890s the competition between Ward and Sears was fierce. By 1900 that Sears catalog sold nearly everything—even houses. A model view of the one of the famous Sears Houses is shown top.

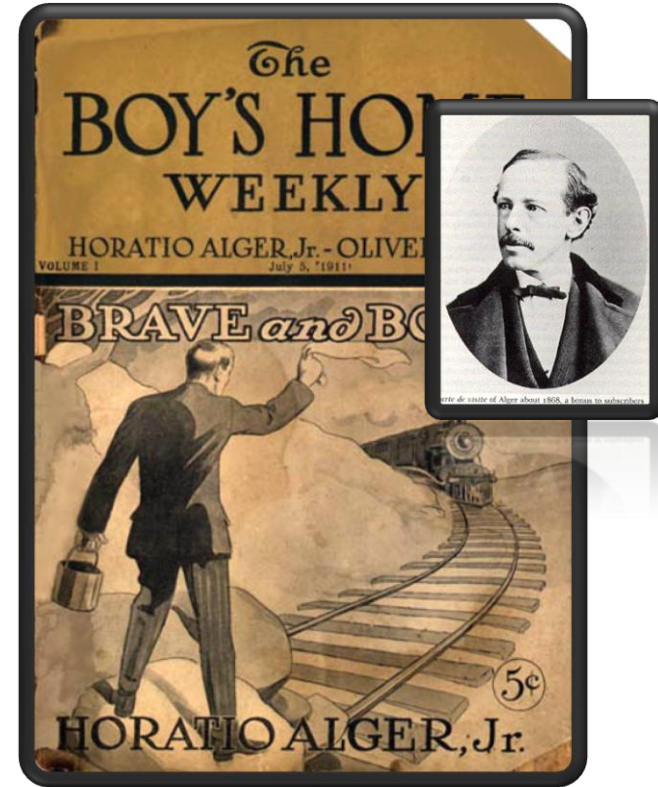


A 1908 model #52 home, complete from the Sears catalog—that's right an entire home. The advertised price varied from \$782-\$1,995. . Online image. May 2010.
<<http://www.searsarchives.com/homes/1908-1914.htm>> . A page from the Wards 1915 Catalog featuring winter wear. Costumes.org. 1915. May 2010.
<<http://www.costumes.org/history/galleryimages/1915wardsunder/pages/17.htm>>





Horatio Alger's novels (selling for only 5-10 cents) of poor kids who worked hard, saved their money, married, and became successful in the grit and competition of the new American industrial world hit a resounding key for many. His titles alone tell the stories: "Do or Die", "Ragged Dick: Or Street Life in New York ", and "Paul the Peddler". All of Alger's heroes gain fame and fortune—what later became known as the "American Dream". The novels, originally serialized in magazines did not even attempt to reflect reality—but repeatedly told a simple story of success. Alger had been a minister, teacher and journalist until his novels began to sell in 1865—when he moved to New York. He died in 1899 and was most popular after death as his idealism fueled book sales into the 1920s.



Horatio Alger (r) and the cover of "Boy's Home Weekly" featuring a serialized "Brave and Bold" (l). 1888, 1911. May 2010 <<http://www.washburn.edu/sobu/broach/algerres.html>>. http://www-sul.stanford.edu/depts/dp/pennies/1860_alger.html





The story of American labor stood in stark contrast to Alger's fictional success stories. Trade unionism had existed for many years, but had not spread simply because most Americans did not work for a big business for a wage. Early unions were small organizations focusing on member health, job guarantees, and social care. As factory workers swelled, so did the first formal unions. The short-lived National Labor Union (NLU) was created in 1866, but failed to gain membership. The Noble and Holy Order of the Knights of Labor (KOL) formed in 1869 to do the "greatest good" for the "industrial masses". A national depression & a rail strike in the 1870s caused more workers to join the KOL in hopes of retaining employment. Also the KOL encouraged women and some African Americans to join; while they excluded Asians. By 1886 the KOL had 700,000 members. In 1886, Samuel Gompers founded the American Federation of Labor (AFL). The AFL was different in three ways from earlier unions. It encouraged trades to form "sub-unions" of carpenters, plumbers, etc. It had strong visionary leadership. And it generally discourages strikes, unless strikes were focused on membership and compliance (i.e., using union members). By 1900, the AFL was America's leading union.





The Great Strike of 1877 was America's first rail strike. The Panic of 1873 led rails to cut wages by 20%. Workers first walked off the job; then violence broke out in Baltimore, Chicago, Kansas City and dozens of other cities. In Baltimore 14,000 rioters were uncontrolled. In Pittsburg rioters did \$4 million damage. It took 45 days and 60,000 to stop the violence. As a result attitudes hardened on both sides: more union sympathy; increased government action against conspiracy; improved union organization; and more strikes. Chicago's 1886 Haymarket Massacre was a reaction to police brutality. On May 4, workers met protesting police action; but the meeting became violent. Then an unknown person tossed a bomb into the crowd. The violence that followed killed seven policemen and several protestors. Eight union leaders, called the Haymarket Martyrs, were arrested and convicted of conspiring to commit murder. One committed suicide, four were hanged, and three were pardoned.



Burning of the Union Depot, Pittsburg, PA July 1877. Originally an engraving appearing the "Harper's Weekly". Online image. May 2010.

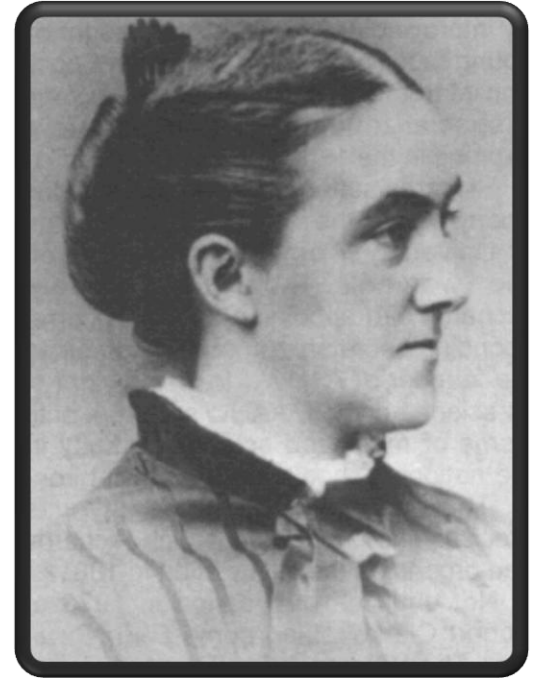
<<http://www.ohiohistorycentral.org/image.php?rec=503&img=2516>>





As we industrialized, the environmental costs and concerns began to rise:

In 1869 Ellen Richards (r), the first woman at MIT, identified water quality as a hazard in Massachusetts. In 1870 Pennsylvania passed the first coal mine safety laws after miners died. President Grant signed the Yellowstone National Park Act in 1872. In 1874 national Arbor Day became official. In 1877 Massachusetts passed the first factory inspection law. Chicago passed the country's first city-wide regulation of smoke discharge from factories in 1881. That same year New York City creates the nation's first Department of Street Cleaning. And in 1882 the state of New York passes America's first pure food laws—an inspiration from Ellen Richards.





Conclusions! Between the 1850s and 1900 America grew a national network of transportation and a national system of industry to crank out and sell products. The development of national markets and industries changed America into a modern capitalist nation. First the economic changes were tremendous—growth in mining to tap natural resources; growth in construction to build the rails, warehouses, shops, streets, and cities; growing demands for labor; changing business organizations to accommodate and control a larger volume of business. The social changes were also significant—Americans shopped at department stores or mail order businesses; laborers joined protective unions; and immigrants flocked to America for jobs. Men like Carnegie and Rockefeller became wealthy; and men like Eastman and Swift changed the habits of Americans. Laborers, like those working on the rails, saw their wages slashed in cyclical downturns. Local cities and states found the industrial costs high and many passed regulations to begin the control of industrialization. There were benefits for the masses, but at huge costs.





A Brief Post Test! Read the question, then click on the best answer to see feedback.

Railroads were America's first "big" business. [True.](#) [False.](#)

Railroads were often mismanaged until bankers like J.P. Morgan took over. [True.](#) [False.](#)

Carnegie's steel wealth did little to raise employment & production. [True.](#) [False.](#)

Rockefeller organized Standard Oil in a horizontal fashion. [True.](#) [False.](#)

Most new technologies & products were practical consumer goods. [True.](#) [False.](#)

George Eastman was a young man when he invented the pocket camera. [True.](#) [False.](#)

Gus Swift provided some innovation but failed to change the beef market. [True.](#) [False.](#)

Wannamaker's Department stores were known for their innovations. [True.](#) [False.](#)

Nineteenth century catalog stores had little impact on the buying public. [True.](#) [False.](#)

Horatio Alger's novels unrealistically portrayed American success stories. [True.](#) [False.](#)

The Great Strike of 1877 was peacefully settled. [True.](#) [False.](#)

The AFL generally urged labor unions not to strike. [True.](#) [False.](#)

Ellen Richards inspired America's first local pure food laws. [True.](#) [False.](#)





Good! That is Correct!

**[Click to return to the Post
Test!](#)**



Yikes! Try that again!

**[Click to return to the Post
Test!](#)**